

Patent Claims

- 5 1. Polymer composites suitable as matrix for phase-change materials (PCMs) for the storage of heat, comprising polymers, a silica matrix in which the PCMs are embedded, and optionally additives and/or auxiliaries.
2. Polymer composites according to Claim 1, characterised in that, as PCMs, paraffins are embedded in a silica matrix.
3. Polymer composites according to at least one of the preceding claims, characterised in that the PCMs are embedded in hydrophobicised silica.
- 10 4. Polymer composites according to at least one of the preceding claims, characterised in that the PCMs in a silica matrix are incorporated into polymers selected from the group consisting of silicones, polyurethanes and polyesters.
- 15 5. Polymer composites according to at least one of the preceding claims, characterised in that auxiliaries are added to the polymers.
6. Polymer according to Claim 5, characterised in that the auxiliary is a substance having good thermal conductivity, in particular a metal powder, metal granules or graphite.
- 20 7. Device for cooling heat-generating components, essentially consisting of a heat-dissipating unit and a heat-absorbing unit, which contains at least one polymer composite according to one of Claims 1-6.
8. Device according to Claim 7, characterised in that the heat-dissipating unit has structures, in particular cooling fins, which increase the surface area.
- 25 9. Device according to Claims 7 and 8, characterised in that the heat-dissipating unit has a fan for additional cooling.

10. Computer containing polymer composites according to Claims 1-6.

11. Use of polymer composites according to Claims 1-6 in computers and electronic data-processing systems.

5 12. Use of polymer composites according to Claims 1-6 in power circuits and power switching circuits for mobile communications, transmitter circuits for mobile telephones and fixed transmitters, control circuits for electromechanical actuating elements in industrial electronics and in motor vehicles, high-frequency circuits for satellite communications and radar applications, single-board computers and for actuating elements and control units for domestic
10 appliances and industrial electronics.